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May 26, 2004

Honorable Jennifer Granholm
Governor of Michigan

Honorable Members of the Senate Technology and Energy Committee
Secretary of the Senate

Honorable Members of the House of Representatives Energy and Technology Committee
Clerk of the House of Representatives

The enclosed annual report, *Status of Telecommunications Competition in Michigan*, is submitted on behalf of the Michigan Public Service Commission in accordance with Section 103 of the Michigan Telecommunications Act as amended in July of 2000. This report will be available on the Commission website at www.michigan.gov/mpsc.

The purpose of this report is to describe the status of competition in telecommunications service in Michigan, including, but not limited to, the toll and local exchange service markets in the state. This is the fourth report of this nature.

During 2003, competition in the telecommunications market in Michigan has experienced continued steady growth. The percentage of competitive lines serving customers is now at a 26.5% share. Competition has been fostered with vigilant regulatory oversight to ensure that competitors are able to obtain the access to needed elements of the incumbent's network without incumbent interference or obstruction. Competition for basic local exchange service in Michigan, however, is mainly based on the competitors using local switching via SBC's unbundled network element platform (UNE-P) to provision customers.

UNE-P accounted for 73% of the competitive lines used to serve customers in 2003. This method of serving customers is in a state of uncertainty as the Federal Communications Commission (FCC) and the courts are currently reviewing the D.C. Circuit's decision to overturn portions of the FCC's Triennial Review Order, which may eliminate the incumbent's obligation to provide UNE-P to the competitors at a regulatory price. If UNE-P is prematurely no longer available at a regulated price, Michigan would be left with a considerably smaller level of competition.

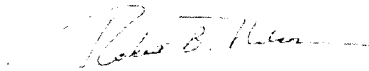
This Commission is very mindful of the effects on the competitors of losing UNE-P at a reasonable price as a way of provisioning customers and it has been very active in the federal and Court proceedings in an effort to protect and preserve competition in Michigan. This Commission will continue to attempt to balance the interests of incumbents, competitors, and customers while promoting competitive choice in the telecommunications market in Michigan. The Commission will apprise the Governor and the Legislature of any developments that may require action.

Respectfully yours,

MICHIGAN PUBLIC SERVICE COMMISSION



J. Peter Lark, Chair
Michigan Public Service Commission



Robert B. Nelson, Commission
Michigan Public Service Commission



Laura Chappelle, Commissioner
Michigan Public Service Commission

Status of Telecommunications Competition in Michigan



May 2004

Submitted by:
MICHIGAN PUBLIC SERVICE COMMISSION
Michigan Department of Labor and Economic Growth

In Compliance with
Public Act 179 of 1991 as amended

**Annual Report on the Status of Competition
in Telecommunications Service in Michigan
May 2004**

Section 103 of the Michigan Telecommunications Act (MTA), as amended in July of 2000, directs the Michigan Public Service Commission (Commission) to submit an annual report describing the status of competition in telecommunications service in Michigan, including, but not limited to, the toll and local exchange service markets in the state. The report required under this section shall be submitted to the Governor and the House and Senate standing committees with oversight of telecommunications issues. This is the fourth report filed by the Commission pursuant to Section 103.

Toll Markets

The toll market is commonly referred to as long distance and the providers of such services are referred to as interexchange carriers (IXCs). IXCs that own their own facilities are required to provide very little information to the Commission related to their operations. The Commission does not license IXCs and they are required only to file tariffs with the Commission that are consistent with the provisions of the MTA. IXCs providing toll service via resale are exempt from this tariff filing requirement as well. As a result, there is little information available regarding market share, customer numbers or revenues for IXCs.

In 2000, the Federal Communications Commission (FCC) ordered the detariffing of the interstate, domestic interexchange services of non-dominant IXCs to become effective after a transition period. Detariffing means that the IXCs do not file their rates and terms of services with the FCC. Beginning July 31, 2001, IXCs began providing service without filing tariffs with the FCC. They provide information to consumers via other means, such as their websites. The FCC concluded that detariffing would enhance competition among providers of interstate, domestic and interexchange services, and promote competitive market conditions.

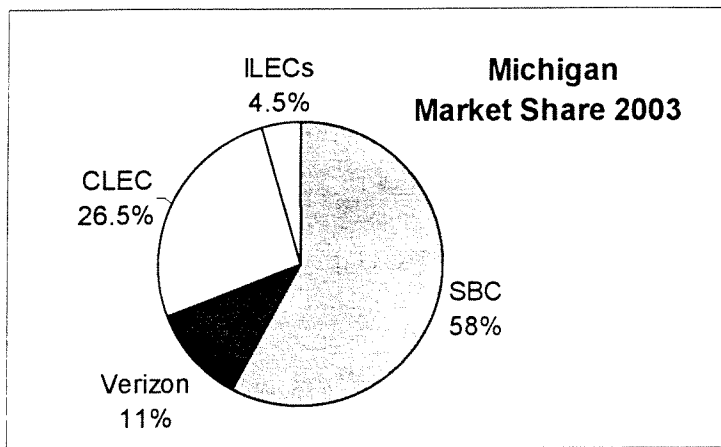
In Michigan, there are 10 carriers registered as facilities-based toll carriers for 2004. While the reselling of toll services is unregulated, the Commission has registered 276 carriers as resellers of toll service in Michigan for 2004. This is a self-registration process but it does indicate that there are numerous providers of this service. The Commission's website provides a link for rate comparisons among providers. Additional information is available in the report of the FCC issued on May 14, 2003, *Statistics of the Long Distance Telecommunications Industry*.

Information available to the Commission indicates the same situation as last year: that despite an increase in the number of toll providers, the prices of basic toll service have in fact increased in the last several years. Effects of competition continue to be more evident in the number of optional toll package alternatives available, the number of providers who offer them, and the declining prices for higher usage customers who do not utilize basic toll rates. Innovative bundling of services and new pricing plans are blurring the distinction between toll and local services. Many providers are offering unlimited local and long distance services, plus unregulated features, at one combined price. In some cases, these bundled services include wireless and internet access services.

Basic Local Exchange Market

To obtain an accurate picture of the competitive marketplace in Michigan for local service, the staff of the Commission has conducted annual surveys of SBC, Verizon and all licensed Competitive Local Exchange Carriers (CLECs) from 1999 – 2003, which includes incumbent local exchange carriers (ILECs) that also operate as CLECs in Michigan. CLECs are providers that compete in the same geographic area as ILECs. This year's survey was sent out to 192 CLECs in the state of Michigan that were licensed as of January 1, 2004. The data collected through the survey was for the year ending December 31, 2003. The information was gathered to assist the Commission staff in evaluating the scope of local competition in Michigan.

The survey was developed through a collaborative process set forth in the Commission's order in docket U-12320. This docket was initiated to review SBC's application for authority to provide in-region long distance service pursuant to Section 271 of the Federal Telecommunications Act of 1996. Through the surveys the staff requested some information that the companies considered confidential. The results of most portions of this survey were reported as total CLEC numbers to maintain the confidentiality of the individual company numbers. For 2003, 112 companies of the 192 CLECs that the survey was sent to filed a response, with 70 of those companies reporting that they were actually providing local service.



From the data compiled for 2003, staff found that the number of lines provided by CLECs (including over their own facilities or through resale of incumbent providers services) was 1,677,423.

The staff report indicates that the total number of lines provided in Michigan (ILECs including SBC and CLECs) was 6,334,114. CLEC lines accounted for 26.5% of the total lines. SBC's share is 57.7% (3,657,177 lines) while Verizon's share is 11.2% (712,287 lines). The small independent telephone companies represent the remaining 4.5% (287,227 lines) of the total lines in Michigan.

The survey responses indicate that the geographic areas covered by CLEC lines encompass primarily the Detroit, Grand Rapids, Lansing and Saginaw areas with the majority of the competitive lines being provided in the Detroit vicinity. From the data that SBC submitted, 62% of the competitive lines are provided in the Detroit area, 22% of the competitive lines are provided in the Grand Rapids area, 7% of the lines are provided in the Lansing area, 6% of the

lines are provided in the Saginaw area, and 3% of the lines are provided in the Upper Peninsula area. It should be noted that virtually all of the CLEC activity is in geographic areas that are served by SBC. As a percent of the SBC market, the CLEC market share is approximately 31% of SBC lines.

The Commission continues to license new CLECs, and at the end of 2003, the CLECs were serving 26.5% of the lines provided to customers by telecommunications carriers in Michigan. This is an increase over the previous year and indicates a continued positive trend in the competitive basic local service market in Michigan. These numbers are consistent with the trend that is represented in an analysis done by the FCC on information gathered through June of 2003. On December 22, 2003, the FCC released its report on Local Telephone Competition: Status as of June 30, 2003. For the Michigan companies that are required to report this data to the FCC, the ILECs reported 4,819,294 lines, and the CLECs reported 1,384,973 for a total of 6,204,267 lines. From the FCC's data, the CLEC share was reported at 22%. This data gathered by the FCC is from 10 reporting ILECs and 13 reporting CLECs in Michigan, representing the larger providers and a majority of the lines.

The 2003 Michigan Survey Results Show That:

CLECs With No Lines	49
CLECs 1 – 1,000 Lines	21
CLECs 1,001 – 10,000 Lines	21
CLECs over 10,000 Lines	21
Total CLECs Responding to Survey	112

The preceding chart categorizes the CLECs according to the number of customer lines that they served in 2003. The data indicates that of the 112 CLECs reporting, 49 were serving no customers in 2003 and this represents approximately 43% of the group, while the second group served between 1 line and 1,000 lines, a group of 21 CLECs or almost 19%. The third group

served between 1,001 and 10,000 lines each and is comprised of 21 CLECs for a 19% share, and the last group of CLECs served over 10,000 lines each and represents 21 CLECs for a 19% share.

The 43% of CLECs reporting that they were serving no customers will be reviewed by staff and, where appropriate, licenses will be revoked.

A portion of the data gathered by the Commission for the last five years is presented below in a table format.

Michigan Public Service Commission CLEC Survey Results:

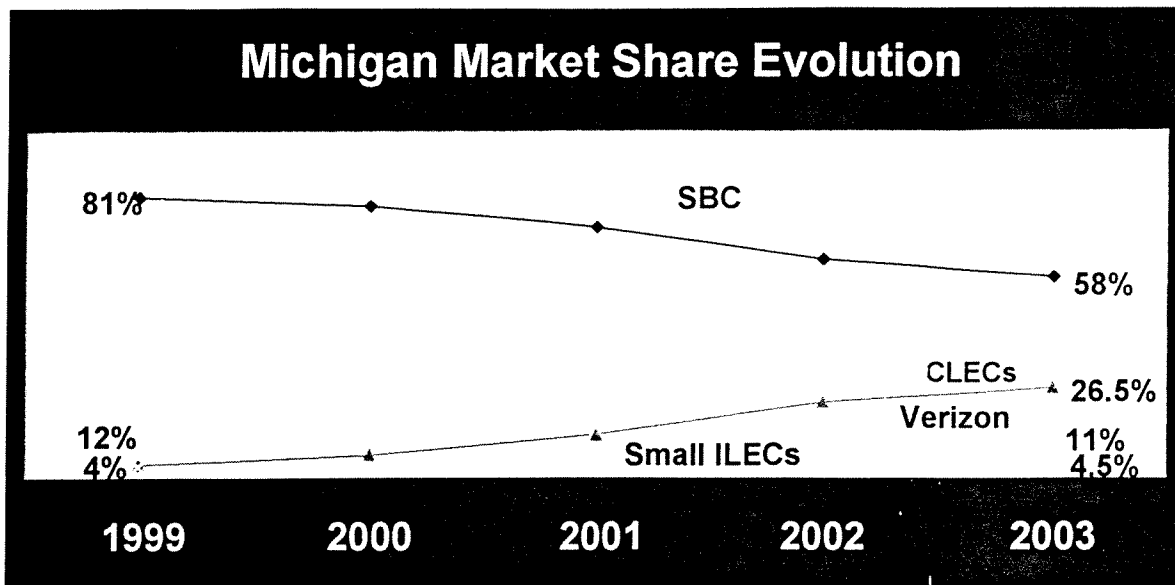
	1999	2000	2001	2002	2003
Licensed CLECs	120	167	173	219	192
CLECs responding to survey	59	69	102	113	112
CLECs actually providing service	25	37	52	54	70
CLECs with actual line counts	23	31	42	54	70
Lines Provided by CLECs	268,385	446,164	896,023	1,447,176	1,677,423
Total Lines in Michigan	6,726,971	6,901,813	7,014,263	6,668,124	6,334,114
CLEC %	4 %	6.5 %	12.8 %	21.7%	26.5%
SBC %	81 %	78 %	72.2 %	62.9%	57.7%
Verizon %	11.5 %	12 %	11.5 %	11.9%	11.2%
ILECs %	3.5 %	3.5 %	3.5 %	3.6%	4.5%

As is shown, while total lines have slightly decreased, the actual number of CLEC providers and CLEC lines in Michigan has grown over the last five years that this information has been gathered and the CLEC market has grown from a 4% share to a 26.5% share at the end of 2003.

The graphical representation of the evolution of the market share over the last five years is shown below. The chart indicates growth for the CLECs while at the same time declining

market share for SBC. The market share for the small ILECs and Verizon remained fairly constant over the survey period.

Also of interest is that in 2003, the total number of customer lines decreased, reflecting a loss to wireless, email and internet telephony.



SBC Michigan InterLATA Approval

On January 13, 2003, the Michigan Commission issued a report and a separate Order in Case No. U-12320 finding that SBC complied with the requirements of Section 271 of the Federal Telecommunications Act and recommended that the FCC approve SBC's application to provide interLATA long distance service. SBC's application was filed at the FCC on January 15, 2003 but withdrawn on April 16, 2003. SBC reapplied on June 19, 2003 and the FCC granted SBC's 271 approval to offer interLATA toll service in Michigan on September 17, 2003. Since SBC's long distance approval was granted late in the year, the Commission does not at this time have any current data on long distance market share to determine the impact of this approval.

Wireless Market

The Michigan Public Service Commission does not regulate wireless providers; however, information gathered by the FCC on the wireless industry pertinent to Michigan from its report on *Local Telephone Competition: Status as of June 30, 2003* is included here. The FCC reported that by June 2003, Michigan had 4,889,269 wireless subscribers, a 3% increase from June of 2002. The FCC reported that nationwide wireless subscribers increased 6% during the first six months of 2003, and for the full 12-month period ending June 30, 2003, wireless subscribers increased by 13%. The FCC's report also indicated that Michigan had 14 wireless carriers with over 10,000 subscribers as of June 2003.

New Emerging Technologies

The Commission monitors the development and advancement of new emerging technologies in the broadband area such as voice over internet protocol¹ (VOIP), Wi-Fi² technology, and broadband over power lines.³ The Commission opened an investigation on VOIP on March 16, 2004. Comments were filed on or before April 1, 2004. The Commission supports emerging technologies to be introduced into the market, as long as these new technologies do not harm the existing public switched network or its customers.

Conclusion

Based on available data that the Commission has gathered through its surveys over the five-year period, there is steady and continued growth in the percentage share of CLEC lines in Michigan from a 4% share in 1999 to a 26.5% share in 2003. This is a continuing trend that

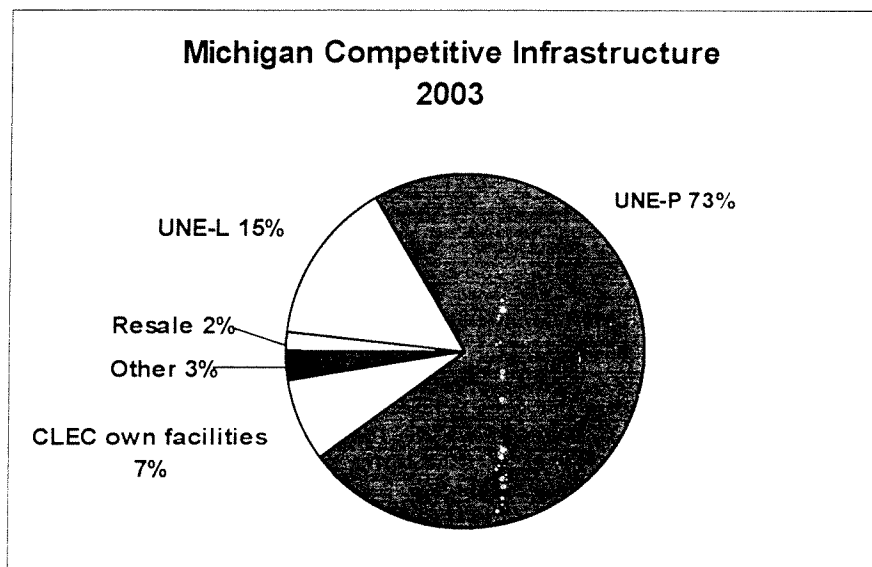
¹ The technology used to transmit voice conversations over a data network using the internet protocol.

² Wi-Fi is a marketing phrase that is short for wireless fidelity. Wi-Fi uses an over-the-air interface between a wireless client and a base station, or between two wireless clients, that is often used to connect computers to the internet in airports, hotels and coffee shops.

³ Broadband over power lines refers to technologies for using electric utility companies' power lines to deliver broadband services.

indicates that competition in the basic local exchange industry in Michigan is still growing. Competition has been fostered with vigilant regulatory oversight to ensure that competitors are able to obtain the access to needed elements of the ILEC network without ILEC interference or obstruction. This indicates that the process that the Commission has established under the guidelines of the MTA is providing a smooth transition of the telecommunications market for basic local exchange service in Michigan to a viable competitive one.

Competition for basic local exchange service in Michigan, however, is based mainly on CLECs using local switching via SBC's unbundled network element platform (UNE-P) to provision customers. UNE-P accounted for 73% of the competitive lines used to serve customers in 2003. This method of serving customers is in a state of uncertainty as the FCC and the courts are currently reviewing the D.C. Circuit's decision to overturn portions of the FCC's Triennial Review Order (TRO), which may eliminate the ILEC's obligation to provide UNE-P to the CLECs at a regulatory price. If UNE-P is prematurely eliminated at a regulated price, Michigan would be left with a considerably smaller level of competition. The chart on the right depicts the competitive infrastructure make up in Michigan for 2003.



This Commission is mindful of the effects on CLECs of losing UNE-P at a reasonable price as a way of provisioning customers, and it has been very active in the federal and Court proceedings in an effort to protect and preserve competition in Michigan. This Commission will

continue to attempt to balance the interests of incumbents, competitors, and customers while promoting competitive choice in the telecommunications market in Michigan.

Broadband Technologies, BPL, and VoIP

Jacqueline Leshkevich
Research Services Division
Legislative Service Bureau



Outline

- What is Broadband?
- Broadband Technologies
- Broadband over Electric Powerlines
- Voice over Internet Protocol (VoIP)
- Regulatory Challenges of VoIP

Broadband is...



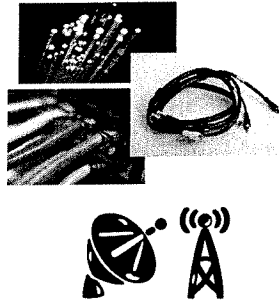
- **High Speed High Capacity** transfer of Information
- *Lots of info (text, video, sound) going very fast!!*

Bit = Digital data = Info
Communication Speed =
"Bits" transferred per second

- Commonly expressed as 1000's of bits or kilobits per second (**kbps**)

Broadband is many technologies

- Wireline Technologies
 - Fiber-Optic (Glass)
 - DSL (twisted pair copper telephone wire)
 - Cable (copper protected in a sheaf)
 - Electric Power Lines (copper)
- Wireless Technologies
 - Radio Waves of different frequencies
 - Licensed and unlicensed Radio Spectrum
 - Terrestrial Wireless
 - Satellite



Broadband Defined...

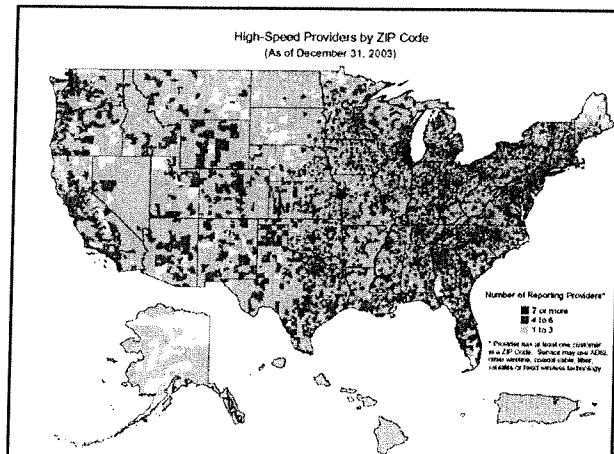
- Michigan 2002 PA 49 (MCL 484.3203g)
 - > **200 kbps** in at least 1 direction regardless of the technology or medium used...
- FCC refers to High-Speed Lines as
 - > **200 kbps** in at least 1 direction

Broadband Legislation in 2002 PA 48, 49, and 50

- Goal: Facilitate the deployment of Broadband across Michigan
- PA 48 establishes a 5 ¢ per foot uniform fee for rights-of-way (ROW) access across the state for both telephone and cable companies.
 - Previously, only cable companies paid ROW fees, and fees across the state were disparate.

2002 PA 48, 49, and 50

- PA 49 Creates the Michigan Broadband Development Authority with the power to make loans to, and enter into joint partnerships with, broadband developers.
- PA 50 Provides property tax exemptions to telecommunications companies for equipment that is used to deliver broadband services.



Why is Broadband important?

**Many (if not most) Internet Services
Require Broadband Speeds...**

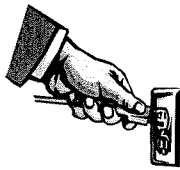
Applications Requiring Broadband...

- Accessing Government Services
- Distance Learning
- Telemedicine
- Business Applications
- Streaming Video
- Downloading music
- Voice over internet Protocol (VoIP)
- Any efficient, enjoyable internet session!

**BPL = Broadband of PowerLine
Provision of Broadband over
electric grid**

BPL = Broadband over Powerlines...

- Get "juice" and "Information" from electric outlet



Copper

- Twisted pair Telephone Wire
- Coaxial Cable
- Electric Power lines

Difficulties...

- Electrical noise
- Impedance
- Signal Degradation

Have been overcome with
Sophisticated Modulation Equipment

Utilities already use electric lines to "communicate"

- Remote metering
- Load control
- Access BPL will provide more...
 - Real time monitoring

Two Types of BPL

- In home BPL
 - Inside a building (Still get access to internet via DSL, Cable, or wireless)
- Access BPL
 - Over utility low and medium voltage lines
 - Provides internet access
 - Competes with DSL, Cable, or wireless

- Couplers are key to deployment of BPL
- Couplers transfer signals to/from electric distribution lines

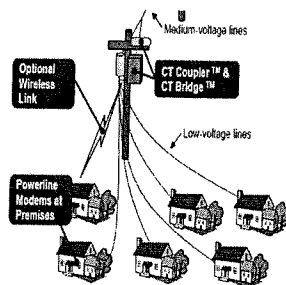


Current Communications Group / Current Technologies

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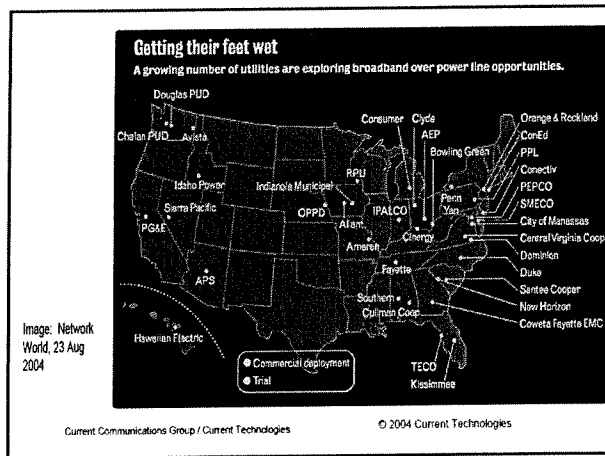
Access BPL

- Carry info from home to electric lines
 - Electric service lines coming from home
 - Wireless



Access BPL

- Electric infrastructure already in place
 - Need to install the couplers
- Power lines reach virtually everywhere
 - Could impact rural locations



Access BPL - Interference issues

- Concerns over interference
 - Amateur Radio Operators
 - Public Service Networks
- Power lines are not shielded and can act like large antennas capable of inadvertently sending and receiving signals

FCC Rules

- FCC believes deployment of BPL beneficial
- Proposed Rules to address interference issues, standards, equipment, etc.
- Provides Regulatory Certainty

Access BPL

- Will utilities be in the broadband business or will they partner with Internet Service Providers?
- Many Regulatory Issues for States
 - Code of Conduct

Distinction...

BPL is
broadband
technology,
ie. it can transfer
info at > 200
kbps

- VoIP is an Internet Application that requires broadband speeds (ie. > 200 kbps to operate

VoIP = Voice over Internet Protocol

- Internet Protocol is language of the internet
- Internet Protocol = digital packets
- "Voice Communications" converted into digital packets and sent over the Internet
- Bypasses the Public Switched Telephone Network

Public Switched Telephone Network (PSTN)

- Analog Signal
- Voice Communications
- Circuit Switched
- **Connection (circuit) is maintained** for the entire duration of the call.
- "Regular" telephone calls travel over the PSTN

On the Otherhand, *the Internet* is...

- A Packet Switched Network
 - Does not maintain constant connection—so no circuit
- Bursts of data (packets) are sent intermittently between systems.
- All data (a Web page, a downloaded file, an e-mail) travels over the **packet-switched network**.

VoIP

- Just treats a voice telephone call like another piece of data...just like an email and sends it over the internet without the use of the Public Switched Telephone Network

Two types of VoIP

- Pure VoIP— Completely Internet Based
 - Both people talking to each other have VoIP Service
 - Information travels only on the Internet
 - Does not use the PSTN
- Hybrid VoIP—Internet and PSTN
 - One VoIP Consumer talking to a someone using a Regular Telephone
 - Uses the Internet and the PSTN

VoIP makes certain things we associate with a telephone call, DIFFICULT

- Enhanced 911 (E911)
- Intercept telephone calls
 - The Communications Assistance for Law Enforcement Act (CALEA) allows law enforcement agencies to intercept telephone calls in certain situations

FCC is deciding is VoIP an...

- Information Service
 - Subject to Title I (Telecommunications Act of 1996)
 - Primarily Non-Regulated

OR

- Telecommunication Service
 - Subject to Title II (Telecommunications Act of 1996)
 - Comprehensively Regulated

FCC...

- Decided "Pure VoIP" is an information service
 - Non-Regulated
- Has not yet decided on on what Hybrid VoIP is...
- VoIP is not subject to State Regulation

BPL and VoIP are Advanced Telecommunications Technologies

- One delivers broadband
- One is an internet application that requires broadband
- Both pose many regulatory Questions!

THANK YOU!

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